

**For discussion
on 28 February 2011**

LEGISLATIVE COUNCIL PANEL ON ENVIRONMENTAL AFFAIRS

PWP Item Nos. 818TH – Retrofitting of noise barriers on Tai Po Tai Wo Road

PURPOSE

This paper seeks Members' support for the submission of proposals to upgrade part of **818TH** "Retrofitting of noise barriers on Tai Po Tai Wo Road" to Category A at an estimated cost of \$95.8 million in money-of-the-day (MOD) prices for retrofitting of noise barriers on the section of Tai Po Tai Wo Road fronting Po Nga Court, prior to submission to the Public Works Subcommittee for consideration with a view to seeking funding approval from the Finance Committee.

PROPOSAL AND JUSTIFICATION

2. To mitigate the noise impact of existing roads on neighbouring residents, it is the Government's policy to consider the implementation of direct engineering solutions, where practicable, by way of retrofitting of barriers and enclosures, and resurfacing with low noise material on existing roads with a traffic noise level exceeding the limit of 70 dB(A)¹.

3. For Po Nga Court, Serenity Park and Hang Wo House, Tai Wo Estate fronting Tai Wo Road, there are a total of about 1 200 dwellings exposed to traffic noise level exceeding 70 dB(A). **818TH** proposes to retrofit noise barriers and semi-enclosure on these three road sections. The whole project will benefit about 660 dwellings with reduction in traffic noise levels of about 1 to 20 dB(A). The layout plan of the proposed works is at **Enclosure 1**. After consulting residents and Tai Po District Council (TPDC), we propose to proceed with the retrofitting of noise barrier on Tai Po Tai Wo Road fronting Po Nga Court first so

¹ L₁₀(1 hour), the noise level exceeded for 10% of a one-hour period, is generally used for road noise at peak traffic flow. The noise limit of 70 dB(A) for residential premises as stipulated in the Hong Kong Planning Standards and Guidelines is adopted as the administrative guideline for retrofitting projects identified under the policy introduced in 2000.

that the dwellings of Po Nga Court could be benefitted from the noise mitigation measures as soon as possible. We will continue to discuss with the residents on the proposed noise barriers at Tai Wo Estate and Serenity Park.

4. About 380 dwellings in Po Nga Court fronting Tai Po Tai Wo Road are exposed to excessive traffic noise levels between 71 and 77 dB(A). On the basis of a detailed study by the Highways Department (HyD), retrofitting of noise barrier at the concerned road section will benefit about 150 dwellings with reduction in traffic noise levels of 1 to 18 dB(A). As over half of the dwellings of Po Nga Court affected by excessive traffic noise are facing the road junction of Tai Po Tai Wo Road and Po Nga Road, they will not be benefitted from the proposed noise barrier. To minimise the noise impact, HyD already applied low-noise road surfaces to this section of Tai Po Tai Wo Road fronting Po Nga Court to reduce noise level by about 2 dB(A).

5. We propose to upgrade part of **818TH** which is the proposed works at Po Nga Court to Category A comprising –

- (a) retrofitting of single-leaf cantilevered noise barriers of about 160 metres in length and eight metres in height along the verge of the westbound carriageway of Tai Po Tai Wo Road near Ka Wo House and Hing Wo House of Po Nga Court;
- (b) associated road, drainage, street lighting, geotechnical and landscaping works; and
- (c) implementation of an environmental monitoring and audit (EM&A) programme for the works in (a) to (b) above.

6. We plan to commence the proposed works in October 2011 for completion in December 2013.

FINANCIAL IMPLICATIONS

7. We estimate the capital costs² of the proposed works to be \$95.8 million in MOD prices.

8. We estimate that the proposed works will create about 75 jobs (61 for labourers and another 14 for professional/technical staff) providing a total employment of 1 753 man-months.

² These are the latest estimates. We will finalise the project costs and estimated new job opportunities and include a cost breakdown prior to submitting the proposals to the Public Works Subcommittee for consideration.

INTERIM TRAFFIC ARRANGEMENT

9. The westbound carriageway of Tai Po Tai Wo Road will be temporarily reduced from two lanes to one lane when necessary during the construction period. The contractor will be required to maintain at least one lane for westbound carriageway at all times during the entire construction period. We have undertaken a traffic impact assessment for the project and it concluded that this temporary traffic arrangement will not cause significant adverse impacts on road users.

ENVIRONMENTAL IMPLICATIONS

10. The proposed works is not a designated project under the Environmental Impact Assessment Ordinance. Nevertheless, we have conducted an environmental study and it concluded that the proposed works would not cause adverse long-term environmental impact.

11. To minimise short-term impacts during construction, we will control the nuisances caused by noise, dust and site run-off to within the established standards and guidelines through the implementation of mitigation measures. We will also carry out the EM&A programmes to ensure proper implementation of the recommendations of the environmental study.

12. At the planning and design stages, we have considered the design and construction sequence of the proposed works to reduce the generation of construction waste where possible. In addition, we will require the contractor to reuse inert construction waste (e.g. excavated soil) on site or in other suitable construction sites as far as possible, in order to minimise the disposal of inert construction waste at public fill reception facilities³. We will encourage the contractor to maximise the use of recycled / recyclable inert construction waste, and the use of non-timber formwork to further reduce the generation of construction waste.

13. At the construction stage, we will require the contractor to submit for approval a plan setting out the waste management measures, which will include appropriate mitigation means to avoid, reduce, reuse and recycle inert construction waste. We will ensure that the day-to-day operations on site comply with the approved plan. We will require the contractor to separate the inert portion from non-inert construction waste on site for disposal at appropriate facilities. We will control the disposal of inert construction waste and non-inert construction waste at

³ Public fill reception facilities are specified in Schedule 4 of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation. Disposal of inert construction waste in public fill reception facilities requires a licence issued by the Director of Civil Engineering and Development.

public fill reception facilities and landfills respectively through a trip-ticket system.

14. We estimate that the project will generate in total about 8 495 tonnes of construction waste. Of these, we will reuse about 4 500 tonnes (53.0%) of inert construction waste on site and deliver 3 860 tonnes (45.4%) of inert construction waste to public fill reception facilities for subsequent reuse. We will dispose of the remaining 135 tonnes (1.6%) of non-inert construction waste at landfills. The total cost for accommodating construction waste at public fill reception facilities and landfill sites is estimated to be \$121,095 for the proposed works (based on a unit cost of \$27 per tonne for disposal at public fill reception facilities and \$125 per tonne⁴ at landfills).

15. The aesthetic appearance of the proposed noise barriers will be in harmony with the surrounding. In line with the prevailing greening policy of the Government, climbers will be planted in the lower part of the noise barriers. Translucent and transparent noise barrier panels will be installed on the upper part to minimise visual impact. The photomontages of the proposed noise barriers are at **Enclosure 2**.

16. The proposed retrofitting of noise barriers will involve removal of 108 trees, including 19 trees to be felled and 89 trees to be transplanted within the project site. All trees to be removed are not important trees⁵. We will incorporate planting proposals as part of the projects, including about 44 new trees, 4 640 shrubs and 500 m² of grassed area.

HERITAGE IMPLICATIONS

17. The proposed works will not affect any heritage sites, i.e. declared monuments, proposed monuments, graded historic sites/buildings, sites of

⁴ The estimate has taken into account the cost for developing, operating and restoring the landfills after they are filled and the aftercare required. It does not include the land opportunity cost for existing landfill sites (which is estimated at \$90 per m³), nor the cost to provide new landfills (which are likely to be more expensive) when the existing ones are filled.

⁵ "Important trees" refer to trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria -

- (a) trees of 100 years old or above;
- (b) trees of cultural, historical or memorable significance e.g. Fung Shui trees, trees as landmark of monastery or heritage monument, and trees in memory of important person or event;
- (c) trees of precious or rare species;
- (d) trees of outstanding form (taking account of overall tree sizes, shape and any special features) e.g. trees with curtain like aerial roots, trees growing in unusual habitat; or
- (e) trees with trunk diameter equal or exceeding 1.0 metre (measured at 1.3 metre above ground level), or with height/canopy spread equal or exceeding 25 metres.

archaeological interest and Government historic sites identified by the Antiquities and Monuments Office.

LAND ACQUISITION

18. The proposed works do not require land resumption.

PUBLIC CONSULTATION

19. Since May 2007, we consulted the Environment, Housing and Works Committee (EHWC) of the Tai Po District Council (TPDC) and residents of concerned housing estates on several occasions on the project including noise barriers on Tai Po Tai Wo Road fronting Po Nga Court and Tai Wo Estate, and semi-enclosure at Serenity Park. Due to the objections to the construction of noise barriers near their developments by some residents of Serenity Park and Tai Wo Estate, we accepted the residents' requests to handle the other two sections of noise barriers separately and take forward the Po Nga Court section first. We consulted the EHWC of TPDC on 12 January 2011 on the proposal to proceed with the Po Nga Court section first so that the residents of Po Nga Court could benefit from the noise mitigation measures as soon as possible. The EHWC supported our proposal.

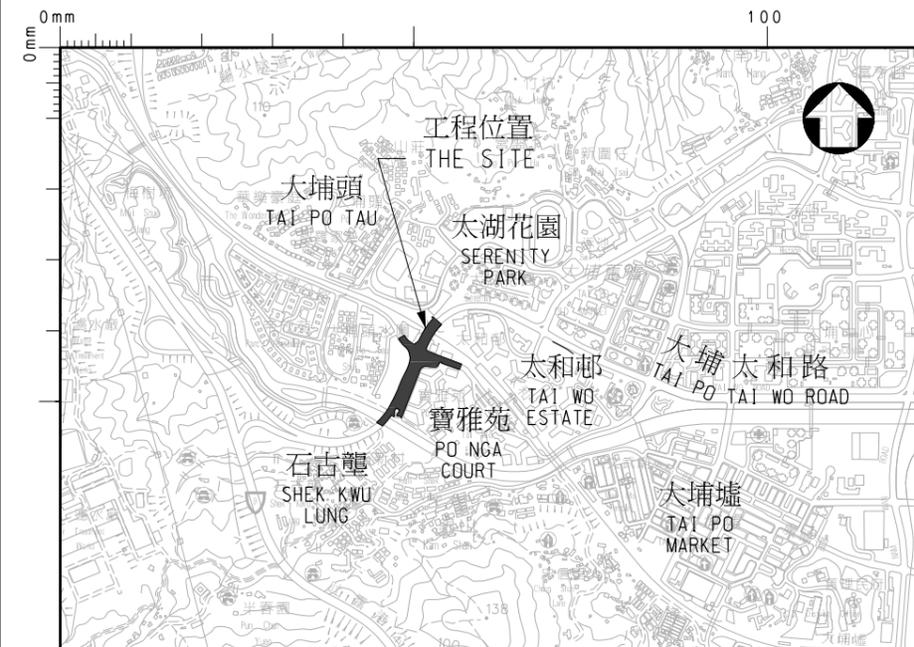
ADVICE SOUGHT

20. Members are invited to support our proposal to seek the Public Works Subcommittee's support in April 2011 for part upgrading **818TH** (i.e. retrofitting of noise barriers on the section of Tai Po Tai Wo Road fronting Po Nga Court) to Category A, with a view to seeking Finance Committee's funding approval.

ATTACHMENT

Enclosure 1 – Drawing Nos. HMW6818TH-SP0003-B
Enclosure 2 – Drawing Nos. HMW6818TH-SP0005-A

Environmental Protection Department
February 2011



索引圖 KEY PLAN

比例 SCALE 1:20 000



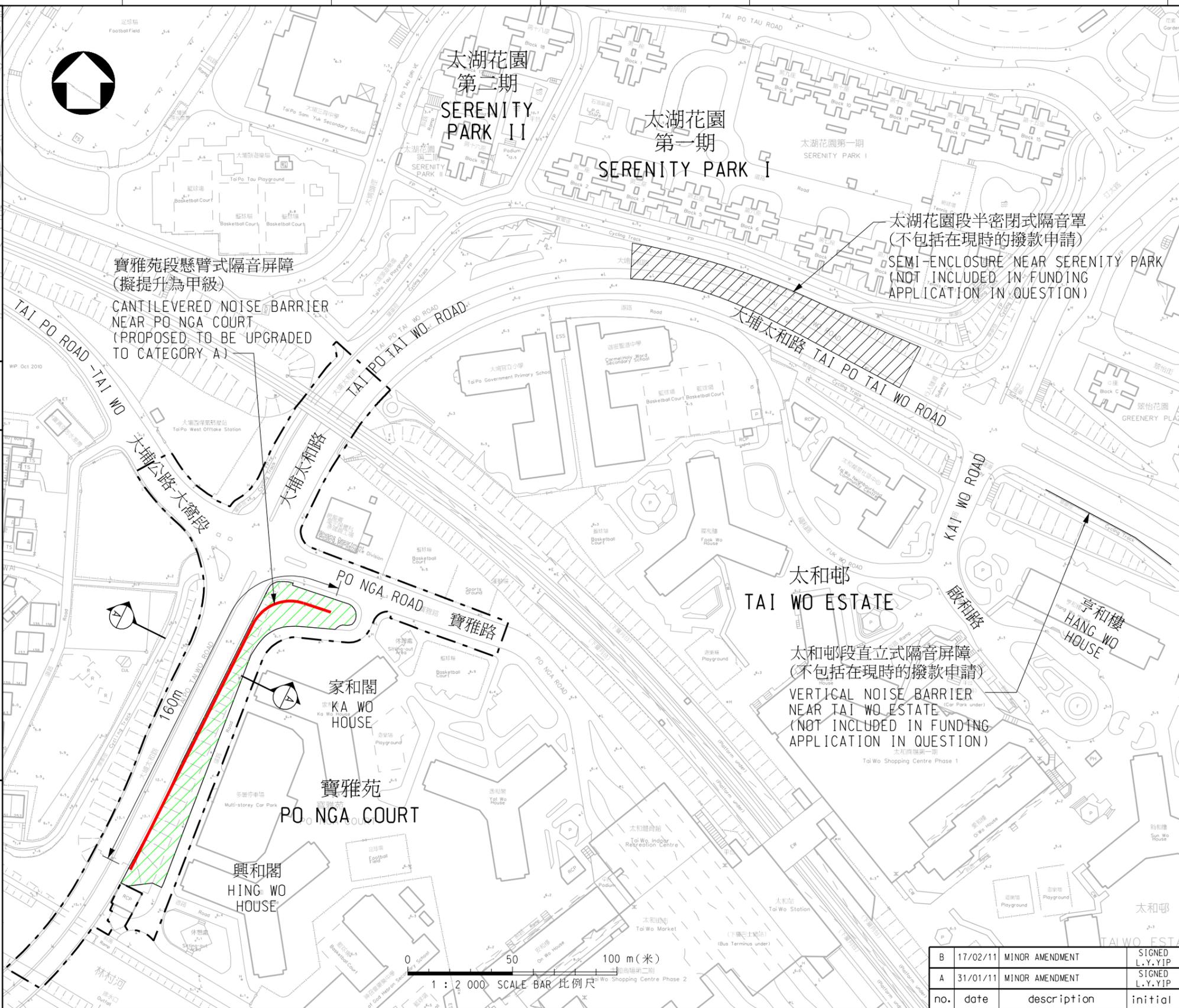
A-A剖面圖 SECTION A - A

圖例： LEGEND:

- 施工範圍 LIMIT OF WORKS AREA
- 擬議環境美化工程 PROPOSED LANDSCAPING WORKS
- 擬議單懸臂式隔音屏障 (約8米高) PROPOSED SINGLE-LEAF CANTILEVERED NOISE BARRIER (APPROX. 8m HIGH)

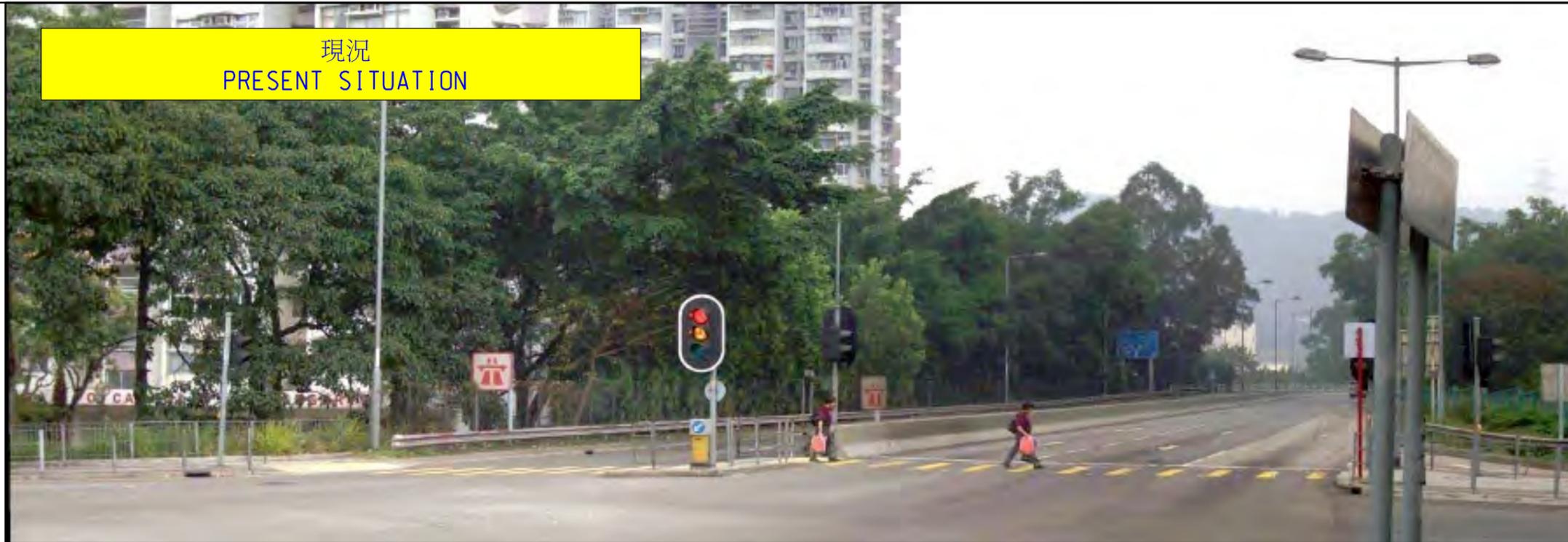
圖則名稱 plan title

工務計劃項目第818TH號 - 大埔太和路加建隔音屏障工程
PWP ITEM NO. 818TH - RETROFITTING OF NOISE BARRIERS ON TAI PO TAI WO ROAD
- 平面圖 LAYOUT PLAN



B	17/02/11	MINOR AMENDMENT	SIGNED L.Y.YIP
A	31/01/11	MINOR AMENDMENT	SIGNED L.Y.YIP
no.	date	description	initial

設計 designed	SIGNED L.Y.YIP 27/01/11	繪圖 drawn	SIGNED Y.L.LAW 27/01/11	圖則編號 plan no.	HMW6818TH-SP0003-B	比例 scale	如圖示 AS SHOWN
覆核 checked	SIGNED H.L.LEE 27/01/11	批准 approved	SIGNED K.H.TAO 27/01/11	© 版權所有 COPYRIGHT RESERVED			
主要工程管理處 MAJOR WORKS PROJECT MANAGEMENT OFFICE				HIGHWAYS DEPARTMENT HONG KONG 路政署			



圖則名稱 drawing title

工務計劃項目第818TH號 - 大埔太和路加建隔音屏障工程
 PWP ITEM NO. 818TH - RETROFITTING OF NOISE BARRIERS ON TAI PO TAI WO ROAD
 - 標準環境美化工程 TYPICAL LANDSCAPE WORKS

設計 designed	SIGNED	繪圖 drawn	SIGNED
L.Y.YIP	26/01/11	Y.L.LAW	26/01/11
覆核 checked	SIGNED	批准 approved	SIGNED
H.L.LEE	26/01/11	K.H.TAO	26/01/11

主要工程管理處
 MAJOR WORKS PROJECT MANAGEMENT OFFICE

A	15/02/11	MINOR AMENDMENT	SIGNED
no.	date	description	initial

圖則編號 drawing no.	比例 scale
HMW6818TH-SP0005-A	示意圖 DIAGRAMMATIC

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